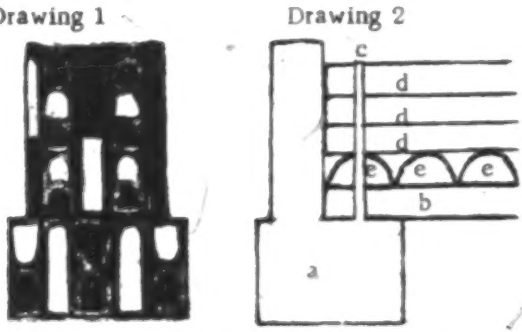

Fig. 29. Painted Socle of a Bench in a Meeting House, Fang Region.
Drawing 1, front view;
Drawing 2, side view.

In many meeting houses, furthermore, one sees /68/ a forge (Fig. 27b, Drawing 1 b) and the tools used by a smith, namely, a bellows suspended from the roof (Fig. 27b, Drawing 1 c) and a smith's stone (Fig. 27b, Drawing 1 e) which at the same time is used as a whetstone and also as a fan for the fire (evuñ e nduan), Figure 32. Finally we must also mention the famous tobacco pipe made from the stem of a banana leaf, which is placed across two hooks in the wall.

It goes without saying that in addition to the above-mentioned furnishings there are all kinds of rubbish lying around in the house, such as half-finished baskets, fishing nets, tools, leftover food, and so forth, scarcely designed to give the whole a more attractive appearance. /Fig. 31 appears here in the original text./

The meeting houses are very seldom embellished with decorative bark, either on the outside (Fig. 33) or on the inside. More frequently, however, we find the bark walls, especially on the gabled sides,

Fig. 30. Rifle Rack, Engugumo, Fang.

4. Metalworking.

(a) Iron extraction.

325 The extraction of iron, surely one of the most admirable achievements of the Negro, is carried on in the Pangwe region only south of the Campo by the Fang and a small number of Ntum kin groups. Traces of old smelting works, on the other hand, indicate that in former times iron extraction extended farther northward. [438] /Fig. 178 appears here in the original text/. Nowadays the Bulu buy iron from the Ntum in the south, and the Jaunde and Bene buy it from the Eton. The principal places where iron is extracted are located in the Woddo and Kje regions, as well as along the upper Uelle, but compared with the places where ironstone is found, they are few in number. Although for the most part people are familiar with the technique of iron extraction, only a few really engage in it. In part the reason for this may be the laboriousness of the enterprise, but in the main it must be sought in the superstitious notions connected with the preparation of iron. These notions require the cooperation of the medicine man, the purchase of expensive medicines, and the strict observance of the rules of 325 abstinence. The rare and difficult art of extracting it from the 789 rocks and then forging it into tools and weapons has given iron a 435 special importance, perhaps also because both techniques require fire, the sacred element which /225/ /Figs. 179 and 180 appear here in the original text/ the Pangwe worship in the Ngi cult. The smelting of ironstone is therefore carried out under the guidance and supervision of the medicine man. Exactly as in the case of the cults, it is he alone who, by means of his medicine, can transfer to others the influence over the process with which he is endowed, or, more accurately, the others can obtain from the medicine man the ability to smelt iron only by purchasing a medicine from him. This smelting medicine (bi̊ǎn akū̊ă, abŭb-akū̊ă) (1) costs five sheep,

1. bi̊ǎn = medicine, akū̊ă = iron smelting, abŭb = spider, which plays a role in the acquisition medicines and is usually -- not always -- present in the smelting medicine.

Fig. 179. Drawknife for Spear Handles.

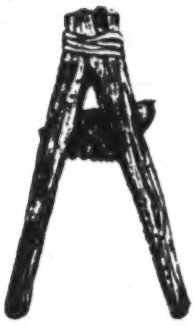

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Fig. 180. Drawknife (also Scraper) for Spear Handles.

five hens, and five pieces of brass wire, which altogether corresponds approximately to a value of 120 marks in our money. The medicine is kept in a small wooden or clay pot lined with the soft leaves of the Triumfetta (okŭn) or in a little basket. It consists of a bundle of leaves with the brain matter of an ancestor, a few pieces of skull from the ancestors placed around it, and pieces of the shaved bark of the Leguminosa Macrolobium straussianum Harms (abŏ'm, bŏ'me IV) or of the fern Marattia fraxinea Sm. (ezĭzŏ'n), and poison (nsŭ). The skull and the brain as the seat of knowledge are supposed to make the smelting process successful; the Macrolobium is supposed to cause the lump iron to lie as firmly and solidly in the smelting pit (ekiai a bŏ'me o sī = the iron is firm [as though stamped down] under there) as this tree stands without buttress roots (hence the name abŏ'm from a bŏ'm, "to stamp in firmly, to pound in, and to be firmly stamped in"); the fern is supposed to cause the iron to agglomerate as beautifully as the young fern leaves.

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[435]
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[826]

Unfortunately, it is impossible to make iron with this medicine alone. For better or for worse, actual work will have to be done, and for this workers are needed. These are not so difficult to obtain since they get a share of the profit, but the abstinence rules which we have already mentioned, especially those of a sexual nature, deter many of them. These rules enjoin abstinence for two months before and during the period of work, and if they are violated, the iron will

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325 834 not be good. This extremely unpleasant prescription, in conjunction with the expensive medicine, stands in the way of a greater distribution of smelting enterprises. Even in places where a hut for iron smelting is already in existence, people prefer to buy iron from others if their own has been a failure several times, for this misfortune is attributed to the failure of the fire as a result of the sexual /226/ impurity of one or a number of the participants. The [439] importation of European iron in recent years is dealing a death blow to the native industry. The fear of bringing anything impure 325 783 841 (and all sexual matters are pre-eminently regarded as such) into contact with pure fire goes so far that a medicine is made by those participants whose wives menstruate during the smelting. This consists of a diamond-shape piece cut out of the bark on the supporting beam of the smelting hut on the side facing the furnace, and it is supposed to represent the female sex organ. The symbol is rubbed with redwood which has been pulverized by the woman concerned and represents her blood flow; it is covered with a leaf of the [834] Myrianthus arboreus P.B. (mangăme III Fang) to indicate that one wants everything impure to be hidden and therefore harmless. At the same time the plant is supposed to cause the iron to coalesce to the same degree as the individual fruits are united in a syncarp. In Plate 17 one can see a piece of the leaf on the supporting post (top left), as well as (somewhat lower down) a bark container which holds fragments of ancestors' skulls, a number of antelopes' horns, and a great variety of other medicines that are used later. That the 325 people concerned with the ancestor cult are regarded as particular- 769 ly suited to bring the work to a successful conclusion is apparent from the fact that they alone may tend the fire (see Fig. 183).

The smelting of iron is thus above all under the aegis of the fire cult, but it is also closely linked with the worship of the ancestors who contribute to the success of the enterprise insofar as it lies in their power to do so.

316 325 Iron crops out in the form of brown iron ore (sĕí IV) (1) and is

1. The analysis carried out by Mr. Du Bois at the suggestion of Professor Pufahl (Königliche Bergakademie in Berlin)

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showed that the ore "exhibits a not inconsiderable titanium content, some sulphur, traces of phosphoric acid, a small calcium content, as well as a small magnesium content, in addition to the usual components, such as silicic acid, iron oxide, aluminum oxide, water, and small quantities of manganese."

simply collected and carried off. The iron ore pits (ebê-asêi from [423] asêi, "rock containing iron") have no special significance for the Pangwe; they are common or rather ownerless property that could be claimed by anyone. The smelting of the iron ore, on the other 325 hand, takes place in special smelting huts which are usually the 423 common property of several fellow villagers; they alone may produce the iron from the ironstone which they themselves have extracted from the pits. The other people in the village may not use the smelting hut and must buy iron from them. Because of the difficulties involved in the enterprise, smelting is done only at /227/ widely separated intervals of time. On each occasion the furnace is loaded rapidly as many times in succession as there are hut owners on hand. Each owner, therefore, has a claim to the iron obtained from one loading of the furnace.

325 The smelting hut (ndâ-akūă, ndzî-akūă), Figures 181 and 182,
343 is a simple lean-to, three to four meters high, whose ridge pole is supported by two beams. A pit (Fig. 182, Drawing 5, c), 78 centimeters deep and 1.86 meters in diameter, is dug into the ground in the center of the hut and the furnace is built over it. Another shaft (Drawing 5, b), about 60 centimeters deep, goes down from the floor of the pit, and it is on the bottom of this shaft that the above-mentioned pot with the smelting medicine is placed (Drawing 5, a). The medicine is covered with rotten leaf sheaths from the plantain so that the skulls will stay nice and cool, and then the entire shaft is filled with leaves.

325 If smelting is contemplated, all the participants, that is, the
372 medicine man, the hut owner or owners, and the hired workers, must, as was mentioned, abstain for two months from sexual

intercourse. During this period, the ore is carried to the hut in baskets and piled up there, and charcoal (miē, mēi) is obtained. The charcoal must be especially "strong," and for that reason it is obtained only from the following five trees: 1) Pentaclethra macrophylla Benth., Leguminosae (ebā'i); 2) Erythrophloeum guineense Don., Leguminosae (elŭn); 3) Cylicodiscus gabunensis Harms, Leguminosae (edūm); 4) Eurypetalum tessmannii Harms, Leguminosae (andzītsiń); 5) Irvingia grandifolia Engl., Simarubaceae (ngún IV). The wood is heaped up in small piles near the village, set on fire, and, when it is charred, extinguished while still glowing. The water with which it is extinguished is skillfully squirted out of the mouth like a shower.

In Bebai, among the Schumu family (Woddo region) where I saw the smelting, a smaller hut stood next to the smelting hut (Fig. 182, Drawing 2); this hut contained nothing but a sleeping bench (p), a poker hook (q), and a number of spare blast pipes (r) for the furnace. The hut owner for whom the smelting was to be done the next day spent the last night in it in order not to succumb to the temptation of violating the above-mentioned rule at the last moment. This precautionary measure shows how steadfastly the Pangwe actually observe the many commandments.

In the morning the workers appear with their tools, the blast pipes (žǒń IV), and bellows.

The bellows without valve -- but in contrast, it does not have wooden sticks used as handles. It is made of soft wood (see page 240); from its two bowl-shaped enlargements (Pangwe: alŏ-nkŭm, "bellows ears") separate shafts lead /228/ /Fig. 181 appears here in the original text/ into the tip (Pangwe: ndžū i'-nkŭm, "bellows nose"). The bowls are covered with animal hide with the hairy side inward, or (only among the Jaunde) with leaf sheaths of the banana tied together in a tuft. Since the hides are moved directly by hand and not by means of sticks, only soft hides can be used, such as those of the long-tailed monkeys, the potto, the civet cat, and the African dwarf buck Neotragus batesi Winton.

The pit in the smelting hut is stuffed full to the rim with leaves of the umbrella tree, so that after the completion of the smelting process it can be cleaned of the charcoal remains without any

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Fig. 181. Smelting Hut in Bębai (Schumu Family), Spanish Guinea.

325 difficulty and so that the medicine lying below will not be dirtied. Then plantain or banana stems (d) as tall as a man are planted close to each other in a circle around the pit; by means of transverse pegs made of raffia leafstalk bark they are joined to each other and with ropes and stakes are fastened to thick posts driven into the ground outside. The whole arrangement is held together above and below with ropes of Cissus runners, called ntū, and carefully plugged with smaller plantain stems (Drawing 4, f) or pieces of the same. By notching two neighboring plantain stems, holes are cut a little above the ground -- in Bebai there were 17 such holes -- for the blast pipes. Provisionally, the holes are filled up with a guide rod 1.25 meters long and corresponding in thickness to the blast pipe /229/ (ntŭ'm e zō'n, really blast-pipe

325 stick), Drawing 4, h; at the bottom this guide rod is propped up by a piece of plantain stem (Drawing 4, g), and at the top it is covered by a piece of plantain leaf sheath, called ngɔ̀b "shoe" (Drawing 4, i). Later one merely needs to take out the stick and push in the blast pipe in its place. When the furnace has been prepared this far, it is loaded. A man climbs into it from the top, has charcoal handed to him, and piles a layer of it over the pit in such a way that the center remains clear. He must fill the space between the floor and the guide rods; he arranges the latter so that they radiate around a common center (Drawing 1, k), and then he adds more charcoal, at the same time covering the inner wall with leaf sheaths of the plantain so that the fire will not penetrate too rapidly to the stems and through the cracks outward (Drawing 3). The leaf sheaths lie in two layers: vertically in the outer layer (ngoo, "lattice wall," Drawing 3, l); horizontally in the inner layer (mvom, "giant snake"), Drawing 3, m. The charcoal is piled up to a height from 60 to 70 centimeters; on top of this is placed the iron ore which meanwhile had been cut up by other people and calcined for four hours on a strong fire (1). Furthermore,

1. "It yielded the following values:

Humidity (at 100 degrees centigrade)	0.51 per cent
Heat loss	2.36 per cent
Silicic acid	8.21 per cent
Titanic acid	6.97 per cent
Iron oxide	67.98 per cent
Aluminum oxide	11.82 per cent
Manganese protoxide	1.03 per cent
Calcium	traces
Magnesium	0.17 per cent
Phosphoric acid	0.05 per cent
Sulphur	0.19 per cent
Alkalies	Rest

The quite considerable titanic acid content is striking here. The smelting process is unpleasantly influenced by it, since a slag is produced that is hardly fusible. (According to Du Bois.)

1: Tessmann--250 E-5 (1904-1909) 1913 FH9 Fang FH9

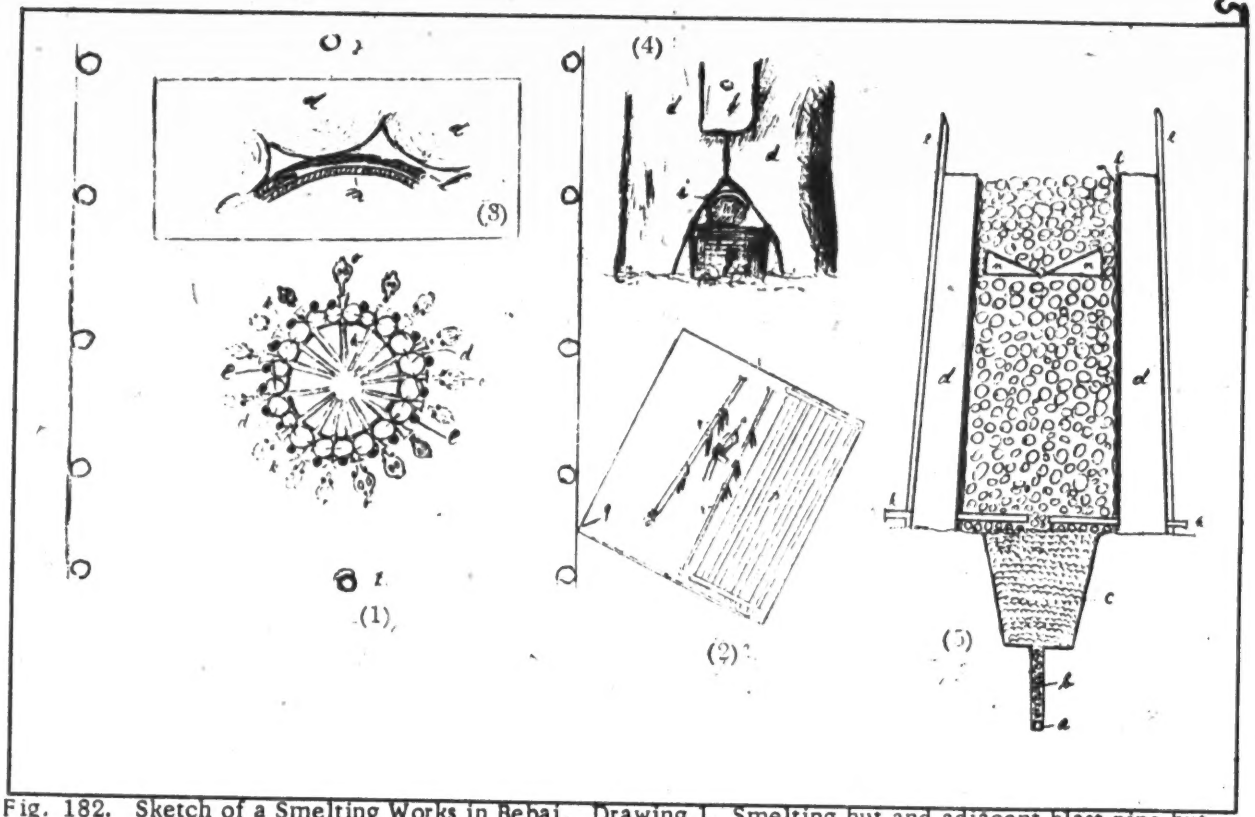

Fig. 182. Sketch of a Smelting Works in Bebai. Drawing 1. Smelting hut and adjacent blast pipe hut (Drawing 2). Drawing 3. Cross-section of part of the wall of the furnace. Drawing 4. A section of the wall where the blast-pipe stick is introduced. Drawing 5. Longitudinal cross-section of the smelting furnace.

325 the larger pieces of the iron ore are once more pounded to fragments before they are put in the furnace. The ore is piled up in such a way that, as Drawing 5 n shows, a funnel remains clear in the middle and also it does not touch the plantains but remains separated from them by a gap that is filled with charcoal. Finally, the iron ore is covered to the rim of the furnace with charcoal (2).

2. O. Zenker describes a very different smelting furnace among the Jaunde. "The smelting huts," he says, "in which the iron is also directly forged, are conspicuous by their tall pointed roofs and wooden planking, as well as by the ironstone and slag lying in front of them. In the center of these large huts are the smelting furnace and four large wooden columns. The smelting furnace is quadrangular and is constructed anew for each smelting. Its outer walls consist of pieces of plantain trunks. The furnace is about one meter high and covers a floor area of approximately one and a half square meters. On the floor, in the center, there is a hollow smeared with clay, in which the liquid iron gathers during the smelting. The entire enclosure is filled with charcoal, but the center is filled with a mixture of ironstone and charcoal. Prior to its being loaded, a funnel-shaped clay pipe is stuck into it on each side; these are used to blow air into it by means of a hand bellows of the shape that is also current in other parts of western Africa. Those who perform this work, usually half-grown persons, are seated on the columns already mentioned which are wooden and about two meters high. To protect the roof a strong wooden

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trellis is constructed over the smelting box. Smelting requires a number of hours. The very soft iron obtained is pounded to pieces and then forged."
(From Mitteilungen von Forschungsreisenden und Gelehrten aus den deutschen Schutzgebieten /Reports by Explorers and Scholars from the German Protectorates/ by Friedrich von Danckelman, 1895, page 63.

[113]

/230/ /Fig. 182 appears here in the original text./

/231/ Now the bellows workers (nsũ̃ɛ̃, -nkŭm) put their two tools, which they have brought with them, into position, and in the manner already indicated stick the blast pipe into the furnace in place of the guide rod, so that the funnel-shaped end juts outward about ten to twelve centimeters. Then they arrange the bellows (Drawing 1, o) in such a way that its mouth is from two to three centimeters from the blast pipe and clamp it between two pairs of sticks, called mvā́k (see Fig. 183), which are planted in the ground. This simple arrangement has given rise to the following proverb:

[539]

bokui bo vŏde akŭắ o mvā́k =

The Pygmies, they despaired of smelting because (of the) the holding sticks (which they did not know how to attach).
This proverb is said whenever some great enterprise fails because of a trifle.

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Now everybody sits down on tree trunks around the furnace. A piece of red-hot charcoal is introduced into the furnace through one of the blast pipes, and then the working of the bellows begins (Fig. 184). This is done in the following manner. First one and then the other hide are alternately pulled up and down by hand, or, if one wants to work at high pressure, both hides are pulled together. This is a strenuous and monotonous job which the natives try to alleviate as much as possible by singing, which is led by the medicine man (in Plate 17, the gentleman to the right with folded arms), by shouting, laughing, talking, and telling stories. Above all, the

natives like to hiss rhythmically during the work; this gives them greater strength, as they say. Regular whistling, however, is strictly forbidden, for in the opinion of the natives it is something evil (see prefixes, page 28 /Ed., not translated/). In all this noise the medicine man takes a prominent part; every other moment he rings an iron bell, blows on an antelope horn, /232/ sings, shouts, and dashes about frantically. In short, he makes every possible effort to spur on the people, and perhaps he also means to fend off evil beings of one kind or another by his activities. Now and then he strikes between the bellows with a bundle of the Violacea Rinorea gracilipes Engl. or the Leguminosa Bandeiraea tenuiflora Benth. (both ovö̌n̊ e ndžǐk) (1) in order to

1. Called ovö̌n̊ e ndžǐk (ndžǐk, "liana") because of the similarity of the leaves with those of the Copaifera tessmannii Harms. (ovö̌n̊), the tree in which the souls live in the intermediate realm; used when there is a shortage of Copaifera.

eliminate all noxious influences through the power of the ancestors. If the zeal of the workers nevertheless flags, there follows a redoubled clamor, and after a short period of time the crew recuperates and pushes the hides with renewed vigor and almost convulsive rapidity amidst violent hissing and rhythmic rocking up and down of the upper part of the body. In the evening when they are tired, hide drums and wooden drums are called in to encourage them with a regular concert; songs are sung in which the medicine man strikes the keynote. At the end of the work, which in Bebai, for instance, lasted from one o'clock in the afternoon to 9:30 in the evening, the medicine man steps up to the furnace and by each bellows worker he makes a movement as though placing something up into the furnace and down into the funnel; his assistant walks behind him, carrying a closed medicine horn provided with a porcupine's tail. Its purpose is unknown.

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The next day the furnace, which has burned out down to the pit, is torn down, and the iron slag (eśŭm), which lies on the top and has not burned out, is gathered together; broken into pieces, it serves as rifle ammunition (2). Then the medicine man calls

2. According to Du Bois it is "a poorly molten, porous slag with a high iron and titanium content and also includes charcoal fragments."

the bellows workers to the pit, and with his forging iron he knocks off the pieces of iron (obą̄'-ekiē̄i) (3) that are loosely attached to the

3. bā̄ = to divide, e-bą̄'-s = scale, ekiē̄i - iron.

ore bloom. The larger pieces he takes for himself, the smaller ones he divides among the men so that each receives a small powder keg of them, which is his reward for the work. The medicine man, on the other hand, keeps almost twice as much for himself. On the floor of the pit is the ore bloom, a large, firm, round to oblong iron lump (mpafą̄n-ekiē̄i I) (4); it belongs to the hut owner for whom

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4. From the root pfa Ntum (fa Fang), "to narrow inward and to be narrowed in," here, "to be contracted, to be agglomerated." Compare pfa-n, "narrow strait"; a pfa-n, "to narrow"; pfa-k (active), "narrowed path or place," in particular between the house and plantains in the village; a pfa-ɳ, "to wrap around, to put a string around." The ore bloom is, according to Du Bois, "to be regarded as a malleable wrought iron heavily mixed with charcoal fragments and with a low carbon content, which can be transformed into a usable

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422 material only through forging."

the /233/ smelting has taken place, with the exception of a piece about the size of a head, which he must give to the medicine man. The ore bloom is pounded into little bits by the workmen right on the spot (Fig. 185). The workmen have the right to take home the splinters that fall off, and the owner does nothing further with it.
[438] These pieces (epfûs-ekīēi) (1) are the end result of the iron smelting

1. pfū̄ -ī, "to knock off (piecemeal)."

and constitute a regular article of trade wherever European trade is not yet too highly developed. /Fig. 183 appears here in the original text./

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434 A few more figures about the expenses and the net profit. In giving these -- as for Bebai -- I assume a smelting period consisting of five smeltings with five owners of the smelting hut. The workers can buy the bellows for ten spears (= 70 pfennigs) from the bellows maker, or they can get them for nothing if they bring the necessary block of wood to the man's house. So far as I know, they must obtain the hide for themselves in each case. The clay blast pipe likewise costs ten spears (= 70 pfennigs), so each bellows worker has 20 spears (= 1.40 marks) in expenses. The owner or owners of the smelting huts have a single expenditure of about 120 marks for the medicine, not including the labor for the construction of the hut and the transportation of the ore. From the iron left to him as wages, each bellows worker earns at one smelting only 15 to 20 spears (= 1.05 to 1.40 marks); hence, from five smeltings he makes a profit of from five to seven marks from which the single expenditure /234/ /Fig. 184 appears here in the original text/ of 1.40 marks should be subtracted. The medicine man does better. From his share of loose iron he can earn 30 spears (= 2.10 marks) and from his share of core iron 50 spears (= 3.50 marks), so altogether he can earn 5.60 marks. From the five smeltings, therefore, he can earn a total of 28 marks. As regards the owner, the ore bloom for him amounts to 500 spears (= 35 marks). Altogether, the yield of one smelting period would amount to: (17 X 17 spears + 80 spears + 500 spears) X 5, 17 workers at 17 spears + medicine man + owner in five

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Fig. 183. Bellows workers and the medicine man's assistant who stirs the fire. Iron smelting in Bébai (Schumu Family), Spanish Guinea.

325 435 434 smeltings; or in German currency, which of course cannot reproduce exactly the value of the spears for the natives: (20.23 marks + 5.60 marks) 5 = 304.15 marks.

These figures fluctuate in the various regions. Nonetheless they do convey an idea of the size and distribution of the profit.

(b) Ironworking.

326 From the tales of the creation story it is evident that the Pangwe, as descendants of Mode-Sama, have known how to forge iron since ancient times, even if they were surpassed in the art by other Negro peoples, the descendants of Ngomwenio (perhaps the progenitor of the Okande?), the second son of Sama. /235/

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Fig. 184. Extracted iron (bloom) after the smelting furnace has been torn down, Bébai (Schumu Family).

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554 The Pangwe do not accord the smith an exceptional social position. He is neither despised, as he is by many tribes, nor does he enjoy any kind of privileges or respect beyond the regard for his abilities. His skill (akŏ"n) is recognized and placed above that of other artisans, but nothing more than that. The smith, like the wood carvers, works only now and then at his trade, and only when there is a need for him to do so; he never works to build up a stock. In other words, he does not carry on a regular trade; instead, he works by commission and is paid for the work performed, not for the finished product (everybody must bring the smith the iron needed for the desired objects). At the time I was in the country, the smith received, for example, for the manufacture of spear money, ten per cent of its value.

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Fig. 185. Extracted iron (bloom) after the smelting furnace has been torn down, Bĕbai (Schumu Family).

326 348 The smith (nlūi III from a lūi', "to forge") most often has his workshop in the meeting house, the scene of most of the enterprises of the men. In this case a T-shaped pit is dug into the ground in the meeting house (see Fig. 27b, b) at the place where there would ordinarily be a sleeping bench. The bellows hangs above the pit and sometimes also its blast pipe; only occasionally is it hung in special huts (abā-lūi'). The latter are either simple lean-tos open all around or provided with sidewalls made of logs, like the temporary meeting houses. A smith's hut of the first form is depicted in Plate 18; the groundplan of a hut of the second /236/ kind -- from the Ntum village Okŏ (south of the Campo) -- is shown in Figure 186. The latter contains a tree trunk (m) and a wooden drum (k) placed along the walls and intended to serve as seats for the spectators; also it contains a stone anvil (b), and in a T-shaped pit (ejĕ, lūi') the smithy fire with the bellows (e-g). The smith (a) is always seated to the right of the fire and just in front of the bellows worker (d), so that he can conveniently reach the red-hot iron with his left hand, take it out of the pit, and work it on the anvil (b) before him.

325 789 824 Even the job of forging cannot be performed without medicines. Just as a medicine is buried under the furnace in the smelting hut, one is also buried under the anvil when the smithy is constructed, although this is not always the case. The medicine consists of cock's feathers, blossom panicles of the Labiata Plectranthus (kɔ̄lɔ̄́t IV Fang, kɔ̄́t IV Ntum), and leaves and stalks of the Commelinacea Aneilema aequinoctiale Kth. (nlɔ̄́t I) (1). The

> a lɔ̄́-t, "unite," hence nlɔ̄́t, the Aneilema (compare also a-lɔ̄́-t, "the duck," because ducks live in pairs).

two plants are burdocks and are meant to symbolize the fact that the iron particles are to be joined together as firmly in the forging as the fruit of the Plectranthus and the stalks or leaves of the Aneilema cling together -- frequently one also sees the smith throwing a few Plectranthus fruits into the blast pipe while forging. The cock belongs to the cult of the Good, or the fire, and for that reason its feathers are the most important component of the medicine. To heighten its effectiveness, the cock is also killed, and its flesh boiled together with the leaves of the Acanthacea Asystasia macrophylla (T. And.) (elɔ̄́bokūi), the Connaracea Manotes zenkeri Gilg (nkɔ̄́-ndzɔ̄́k I), the Ebenacea Diospyros fragrans Gürke (myɔ̄́fɔ̄́n IV Fang, myɔ̄́pfɔ̄́m IV Ntum), and the Tiliacea Desplatsia dewevrei Burset (afɔ̄́nɔ̄́k). This concoction is eaten by the smith. The plants mentioned have strong and flexible stalks or twigs (nkɔ̄́b, "rod, whip"), and the implied wish is that the iron, in particular the spear money, will be just as strong and flexible.

325 435 Lastly it should be mentioned that in a newly constructed smithy hut the first thing to be melted down must not be crude iron but only worked iron.

The smith's tools include:

325 1. Large forging iron (ngɔ̄́n[d]ɔ̄́ III) of the form shown in Figure 187, Drawing 1; for cruder work it is used as a hammer, for finer work as an anvil, in which case it is pushed into the ground with its pointed end. It is worth 1,000 spears or 70 marks.

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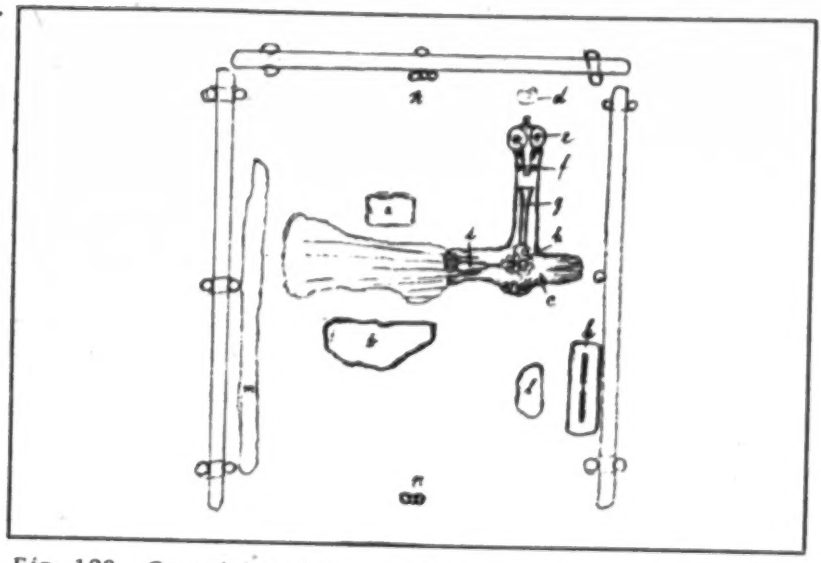

Fig. 186. Groundplan of a Smithy in the Village Okŏ, Ntum Region.

(a) Smith's seat; (b) smithy stone, anvil; (c) smithy pit; (d) bellows worker's seat; (e) bellows; (f) sticks to hold the bellows; (g) blast pipe; (h) charcoal; (i) handle; (k) talking drum used as seat; (l) stone, mainly for whetting the cutlass; (m) trunk, seat for spectators; (n) ridgepole.

●325 2. Small forging iron (edū), Figure 187, Drawing 2, used for spear blades, and so forth. (Value, 50 spears or 3.50 marks.)

3. Handle (abí from bí, "to grasp"), a simple iron rod widened toward the end to a slightly spatulate form, attached to a wooden grip. It is held against the iron glowing in the fire and welded with it so that both /237/ /Fig. 186 appears here in the original text/ can be taken out together. While the iron is being worked, the end of this handle merges with the forged object and must therefore be made anew each time after it is used, that is, it must be widened by pounding it at the end.

325 4. Chisel (zǎńe), Figure 188, which is stuck into a slit cardamom stalk and driven in with a hammer in order to burst thin connections, to chisel off superfluous edges, to make grooves, and so forth.

5. File (ewǎ́s), used for smoothing.

6. Tongs (abās), Figure 189, Drawing 2, made from a cardamom stalk split at the end.

7. Squirter (amǒ́m, amĕ́m), Figure 189, Drawing 1, made from a cardamom stalk (1) split at the end, and used -- as among

> 1. Cardamom (Aframomum) as torch, see page 42; as sacred plant of fire, see Section 11 /Ed., this section of Vol. II is not translated/.

us -- to moisten the coal from time to time.

325 372 313 If anything is to be forged, the blast pipe of the bellows is placed in the center of the smithy pit, charcoal is heaped over it -- the charcoal is produced in the way described on page 247 (2) --

> 2. From the following trees:
> Leguminosae Dialium guineense Willd. (ogbŭ́ń-elĭ́); Leguminosae Platysepalum tessmannii Harms (ogbŭ́ń-elĭ́);
> Olacaceae Aptandra zenkeri Engl. (ogbŭ́ń-elĭ́);
> Ochnaceae Ouratea tessmannii Gilg (osŏ̌);
> Euphorbiaceae Sapium oblongifolium Muell. Arg. (osŏ̌);
> Ochnaceae Ouratea brachybotrys Gilg (osŏ̌, kŭ́ń-osŏ̌, oklĕ̌);
> Euphorbiaceae Plagiostyles klainei Pierre (esŭlắ);
> Guttiferae Garcinia punctata Oliv. (nsā́-elĭ́ III);

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Euphorbiaceae Uapaca guineensis Muell. Arg. (asám);
Simarubaceae Irvingia grandifolia Engl. (ngún IV);
Sapotaceae Mimusops djave (Lan.) (adzá'b);
Leguminosae Distemonanthus benthamianus Baill. (ején, elí bengáń);
Burseraceae Pachylobus fraxinifolius Engl. (asé,á');
Burseraceae Pachylobus macrophyllus (Oliv.) (atóm Fang, andótóm Ntum);
Flacourtiaceae Petersia minor Niedenzu (abíń).

and on the charcoal, the iron pieces to be forged. Then /238/ the charcoal is set on fire with a red-hot coal thrown into the blast pipe. Thereupon the assistant sets the bellows going (see page 252). If the charcoal catches fire, the smith places the handle (Figure 186, i) into the side arm of the pit, heaps the charcoal (h) over the iron pieces, waits until the iron is red-hot, takes it out with the handle, and forges it on the anvil. Once the iron is ready in its crude form, it is knocked free from the handle with the chisel, seized with the tongs, and subjected to further working.

(c) Brass founding.

325 Brass (ngún IV, mvót IV) has been coming into the Pangwe region from the coast in the form of tubes and wire for a long time. Because of its softness and its brilliant color, it has almost completely replaced iron insofar as it was used for ornaments. The tubes are not altered; the wire, on the other hand, is worked into neck, arm, and finger rings, into foot covers and leg rings.

The wire is cut into small pieces about three centimeters long and placed in a potsherd or in a clay vessel specially prepared for the purpose (Fig. 190). Then it is placed on the smithy fire and

●325 entirely covered with charcoal and melted with the help of the bellows. As soon as the blue flames appear, the smith removes the coals from the top of the pot, seizes the latter with his tongs, and pours the liquid metal into molds. These are halved raffia leafstalks in whose pith a suitable negative form is cut (Fig. 191). Then he cleans out the coal fragments that might have fallen into it and pours on water. After it has cooled, the brass is taken out of the mold and, heated, it is again worked, that is to say, the coarser roughness is beaten down with the large forging iron. In the case of the engraved neck rings (see Fig. 14), the two ends are now /239/ /Fig. 187 appears here in the original text/ beaten out with the tapper and rolled with light blows over the surface which is then carefully smoothed with the tapper. This is a rather laborious job, since the rod must time and time again be placed in the fire for a time. Now the ring is bent by skillfully hammering the inner surface on the edge of the anvil, and it is hammered completely together on the large forging iron placed over two props. Finally it is filed smooth, whereby the brilliant yellow brass color appears in place of the hitherto black color; then various patterns are engraved on it with the help of three different strong chisels (Fig. 192) and other tools (Fig. 193).

5. Pottery.

323 [462] Unlike the crafts mentioned so far, pottery is in the hands of the women. Only tobacco pipes and blast pipes are made by men. Pottery is not very highly developed; its forms are poor and decoration is rare. /Fig. 188 appears here in the original text./ The main products of pottery are assembled in Figure 194:

1. Water flasks (ešügǎ);
2. Large and small cooking pots (mvé IV and obébé);
3. Smithy funnels (žǒń IV);

in addition, the following are also made,

4. Tobacco pipes, and
5. Brass smelting pots.

This is the extent of the use of clay objects. /Fig. 189 appears here in the original text./ /240/

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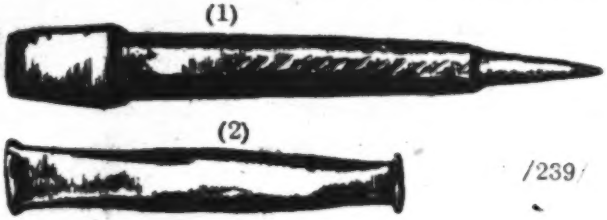

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Fig. 187. Hammer and Tapping Iron.

Fig. 188. Chisel for Ironworking.

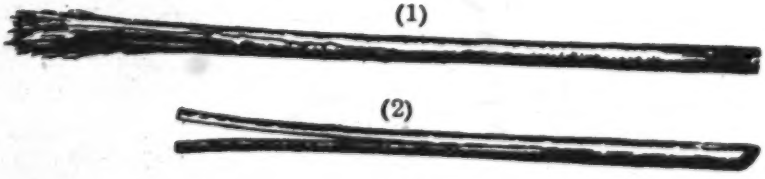

Fig. 189. Smith's Squirter and Tongs.

1: Tessmann--266 E-5 (1904-1909) 1913 FH9 Fang FH9

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Fig. 190. Clay Vessel for Brass Founding.

Fig. 191. Form for a Brass Neck Ring in a Halved Raffia Leafstalk.

Fig. 192. Chisels for the Patterns on Brass Neck Rings.

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Fig. 193. Brass Smith Decorating a Brass Neck Ring, Akonangi, South Cameroons.

While the pots are drying, the decorations are put on. The pots are slightly moistened with water, and then the pattern is scratched on with a pointed raffia leafstalk splinter. A certain pattern, obügeli, is obtained by rolling a carefully braided four-edged stamp up and down (Fig. 195). 323 [531]

The clay blast pipe of the bellows is manufactured by the men in the following manner. The bark of a raffia leafstalk is removed in strips down to just short of one end; the strips are then tied together again in their natural position at the other end, so it looks as though the bark had burst apart in the middle into so many strips. Then the leafstalk is stuck vertically into the ground on the end from which the strips had been completely removed and tied together again. The clay is placed around the stick in the form of a funnel, the upper edge being bent outward, and so the whole thing is left to dry in the sun for three days. Then the strings are untied, the bark strips are completely removed, being pulled off one by one, and the blast pipe is taken down to dry for a little while longer in the house. The blast pipes are never decorated; only once when I /242/ /Fig. 194 appears here in the original text/ witnessed the making of a blast pipe in Bebai, the [462]

1: Tessmann--343 E-5 (1904-1909) 1913 FH9 Fang FH9

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Plate XVII

Iron Smelting in Bebai (Schumu Family), Spanish Guinea.

1: Tessmann--344 E-5 (1904-1909) 1913 FH9 Fang FH9

Plate XVIII

Smiths in Bebai (Esseng Family) Ntum Region.

301 Women wore only a sort of double apron of grass or leaves, azem
[391] or abui, fastened to a belt of cylindrical steatite beads, nsanga; bracelets, mekom, of ivory or copper shaped like spools; ankle chains, bibat, of cast copper, very heavy; and an enormous necklace of cast copper, nkembé, which was put on a little girl when she entered her
[764] affinal household and which could not be removed until after death, by cutting apart the body or melting the necklace or awaiting decomposition. All this jewelry belonged to, and remained in, the husband's
[422] family, even in case of divorce; the ésa was the person who distributed it among his wives and daughters-in-law. Flat bracelets were made of
306 "neptunes" or "benares" /?/ imported from the coast; later on they made, and still make, rings and bracelets from cartridge cases and telegraph wire. But the origin of the cast minkembé /plural/ is still a mystery; the technique of metal casting is unknown or forgotten; placer or lode copper is very rare, not only in the present Pahouin
● [325] habitat but also where they seem to have come from. Furthermore, these very old necklaces resist corrosion and have a very pale patina indicating some kind of alloy; moreover, the nearest workers in bronze the Bamum, do not make this kind of necklace.

291 Men's dress at the present time is usually of the European type,
[177] from shorts and sports shirt to the surplus American cap; those who wear shoes have European footwear, leather or canvas according to their income, or in the style of the Arabic—silifa, from English "slipper" = babouche, of Hausa or Peul manufacture. Mention should be made of the helmets and kepis of umbrella-tree wood and the fake spectacles of slivers of raffia "bamboo." In the villages or at home, imported loincloths are rolled around a belt or tied behind the neck.

Women also wear a loincloth, éndelé, tied at the neck or rolled tight above the breasts when they have nothing else on, rolled at the waist when wearing the "mission jacket," éwoman (apparently from "woman"). The favorite head covering is still the kerchief, éyañese (from "handkerchief"). More and more women are also wearing cut and sewn European-style dresses, bizingi; often a kind of slip; no
[941] panties except for a few young modernists (who call them caleçons, "drawers"); and internal sanitary napkins made of medicinal plants.
[747] Mission activity has spread notions of prudery; formerly only those
834 past puberty were obliged to cover their sexual parts. Women did so with great care in spite of the casual nature of their clothing; the greatest insult to a woman was to uncover her vulva in public; she never

8: Bennett D-5 (ca. 1898) 1899 FH9 Fang FH9

502 501 The mariner's compass is entirely unknown, and when I have shown one, it was always spoken of as "the white man's *biang bial*" (canoe fetish). The Fang shapes his course by his knowledge of the river banks; he never ventures more than three days' journey from his own town, and much dislikes the idea of losing sight of land; therefore he seldom, if ever, attempts it. Certain canoes belong to the headman of the village, others to individuals. The canoes do not have houses; [776] [702] charms are frequently tied to the bow, to appease the water spirit, and frequently a traveller in a canoe will throw into the river at certain places he passes portions of his food to appease the local spirit which he believes dwells there. The place where this spirit dwells may be in some large tree or rock on the river bank. At night the canoes are hauled up on the river bank and usually left unprotected. Large war canoes, if painted, are occasionally covered with a few mats. No special portion of a canoe is set apart for a chief, he is usually seated near the bow. Watertight compartments for provisions are not provided, food and articles of trade being carried in high baskets. Upon arrival of a canoe from a neighbouring town, the visitors are frequently welcomed with shouts of joy; guns are fired and a dance given in the evening. I have seen canoes repaired by placing pieces of bark over the leaks inside and outside, the bark being secured with small hard wood plugs. No arrangement is made to prevent leaking.

227 Hooks for fishing are skilfully made of bamboo, the barb is long, very sharp and notched on both sides. The hook is secured to the fishing-line with string made of pineapple fibre. Foreign-made fish-hooks are now largely used; these [939] are much coveted, and considered a very staple article of trade.

Casting nets are used weighed with stones, iron, or lead, obtained in trade. The meshes are very fine and show much skilful and patient workmanship. A Fang will work well at anything which he can do while sitting in the palaver house. He can then work, smoke and talk; any work requiring much bodily exertion on his part or elsewhere is relegated to his wives. Fish traps are made of split bamboo and much resemble the lobster baskets used by our own fishermen. [226] Small streams are often dammed at high water, the dam being made of split bamboo, fastened together with bush rope until a very large screen is made, 10 or 12 feet in height; this screen is staked across the stream at high water, when the tide falls the water passes readily through, leaving the fish in the river. The most disgusting sight among the Fang, is to see the women and children at low water walking in the mud, breast high, feeling for "mud fish." The large casting net is called *ewot*; a small round net used for dipping in pools and along the river bank at low water is called *tan*.

VI.—*Metallurgy, Fire, Machinery.*

325 326 Metallurgy among the Fang is limited to the working of iron. The native word for iron is *Eki*. The Fang among whom I lived did not possess the knowledge of smelting, but I was told that "other Fang far away in the bush, especially the Nqui (dwarfs), dug the *minkok eki* (stones of iron) out of the earth, melted it, and

8: Bennett D-5 (ca. 1898) 1899 FH9 Fang FH9

traded with the *eki* (iron)." Iron is put to various uses. Long bladed knives of various shapes and patterns are made, also spear heads, armlets, anklets, finger and toe rings. Small pieces of iron are used for bullets in flint-lock muskets. One of the most important uses of money among the Fang is the making of *beki*.

Beki is made up in bunches ten *beki* in each bunch; a bunch of *beki* is called *ntet*. The amount of dowry paid in *beki* is usually counted in hundreds, *kuliki bi kei, ntet awom* (bring me one hundred *beki*).

A bundle of ten arrow heads is frequently used as an *ntet*.

A peculiar shaped adze is made of iron; it is used for working wood, especially hollowing trees intended for canoes.

Pieces of iron are forged into axe blades (*ovon*).

The *mfak* is a short handled spade made of iron, used for digging in the gardens.

The art of casting seems to be unknown.

The bellows (*nkum*) used by Fang smiths are very ingenious (*specimen on table*). The feet are used to steady the bellows, whilst both hands work the goat skin covers and force air into the fire.

A block of iron is used for an anvil. Some of the natives are quite skilful at working iron. A Fang living near my residence often begged from me a round steel nail from a packing case. In a short time he would return with the nail transformed into a thin delicate knife or dagger, only the nailhead remaining intact. Very large fighting knife blades are made and beautifully fashioned, and ornamented with various punch marks.

I have never seen any native made wire. Imported brass wire is in great demand and mostly used as a continuous armlet. The coil usually reaches from wrist to elbow, and is considered extremely *mbung* (handsome), and kept highly polished.

Imported brass is obtained in trade and made into armlets, anklets, finger and toe rings. It is also used for ornamentation of guns.

Many of the natives are skilled workers of iron and fully aware of its value. I have never seen welding practised, but in working hot iron it is frequently plunged into cold water to make it *alert* (hard).

Fire.—In the far interior, fire is produced by friction, the simplest form of a drill being used, which is twisted rapidly between the hands. Along the rivers matches are obtained from the native traders, who bring up large quantities from the coast. The natives are always ready to trade for matches, which are again traded to interior tribes. Flints are only used on the hammer of the old flintlock musket imported for trade. Fires are almost constantly burning in the palaver houses. Two dry logs are kept constantly burning, they are placed end to end, when one log is nearly consumed it is replaced by another.

It is interesting to notice how the natives carry fire about. When on a journey in 1897 from Gross Batanga with a caravan to the Bulu country in the German sphere of influence, one of the men usually obtained a piece of burning